

Claims

1. A photo-interrupter with a light-emitting device and a light-receiving device each with a lens projected forward being housed oppositely to each other within an
5 concave case of an opaque resin mold, characterized in that

said case is monolithically formed using a transfer mold, and includes a light-emitting device holding section and a light-receiving holding section which are
10 provided oppositely to each other and configured to hold a light-emitting device and a light-receiving device inside, respectively; and

said light-emitting device holding section and said light-receiving holding section have openings for
15 securing sides of the projected portions thereof so that the projected portions of said light-emitting device and the light-receiving device are opposed to each other, and have pressing portions for elastically securing the light-emitting device and the light-receiving device from
20 behind them, respectively.

2. A photo-interrupter according to claim 1, characterized in that the sides of the lenses of the light-emitting device and the light-receiving device are
25 secured onto the end faces of the openings formed in

opposite inner surfaces of said case, the backs of the light-emitting device and the light-receiving device are pressed by the pressing portions which were formed by bending the outer surfaces of the case, and said
5 light-emitting device and said light-emitting device are anchored to said case.

3. A photo-interrupter according to claim 2, characterized in that said case has the inner surfaces
10 where the openings of said case are formed integrally to the outer surfaces on the opposite sides and hooks for hooking a mounting base plate.

4. A photo-interrupter according to claim 3,
15 characterized in that said hooks pass through mounting grooves in said mounting base plate to anchor said case to the mounting base plate elastically.

5. A photo-interrupter according to claim 4,
20 characterized in that said light-emitting device and said light-receiving device are provided with lead terminals to be connected to a circuit pattern formed in said mounting base plate.

25 6. A semiconductor device provided with a mounting leg

to be inserted into a mounting hole of a base plate, characterized in that said mounting leg includes an elastic vertical leg body which extends downward from a body of said case and a contact portion to be brought
5 into elastic contact with a lower edge of said mounting hole at a lower part of said leg body, and said contact portion has a slope which slopes out-downward from the side of said vertical leg body.

10 7. A semiconductor device according to claim 6, characterized in that the sloping angle of said slope to a horizontal plane is 45° or less.

8. A semiconductor device according to claim 6,
15 characterized in that it is provided with an attachment stabilizing piece which extends outwards from the side of the lower portion of the semiconductor device body and a horizontal lower face which is brought into contact with a surface of the base
20 plate when the semiconductor device is attached to the base plate.

9. A semiconductor device according to claim 8, characterized in that said attachment piece is arranged
25 on the side perpendicular to said contact portion.

10. A semiconductor device according to claim 8, characterized in that a floatage suppressing piece is provided on the side surface of the case body.

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11. A semiconductor device according to claim 8, characterized in that said floatage suppressing piece is formed in contact with a chassis or frame.

10 12. A semiconductor device according to claim 9, characterized in that said case is molded monolithically by a transfer mold.